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ABSTRACT

Our judicial system has upheld the rights of all young people, no matter what the severity of their learning problems, to equal treatment, education, and opportunity. It is proving possible to accommodate a broad range of exceptional children in the educational mainstream, with emphasis not on how a child is disabled but on the specific characteristics of his learning abilities and constraints. A central concern is to relate the educational and architectural professions in ways that can deal most productively with the needs of exceptional children and of special education. A few specific guidelines are offered for designing or renovating a facility to accommodate special education. (Author/MLF)

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FACILITIES FOR PEOPLE WHO LEARN DIFFERENTLY

by R. Randall Vosbeck

Educators and architects have a great challenge facing them today. Educational facilities must be able to accommodate the thousands of exceptional children with various mental, physical and emotional handicaps, as the courts are mandating the right of a free public education for all. When we talk about exceptional or handicapped children, we are not talking about an easily defined group of young people. Definitions can -- and do -- vary from place to place, from region to region, and from state to state. Thus, specific policies may vary widely and, thus too, the implications for facilities design may vary widely.

But one fact is approaching universal: This is the legal fact that every child has the right to public education. The fact that some require varying forms of special education or special educational resources does not, in any way, reduce the mandate. In recent times, our judicial system has upheld the rights of all young people -- no matter what the severity of their learning problems -- to equal treatment, equal education, and equal opportunity.

The Educational Facilities Laboratories reports that approximately one child in ten now requires some form of special education. Within that group are those with functional or physical problems, ranging from problems of mobility to the absence of sight or of hearing. Also included are those with mental or emotional problems, problems that may vary widely in intensity and, therefore, in their demands for special responses. Therefore, we are talking about a very significant group, both in real numbers and as a percentage of the total school aged population.

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Most educators are just beginning to grasp in some detail the facts relating to special education. Architects, for the most part, are still very much laymen in

the field of special education. But a central concern today must be how best to relate the educational and architectural professions in ways that can deal most productively with the needs of exceptional children and of special education.

The terms "handicapped" or "disabled," when dealing with children with special needs, is somewhat unfortunate. In the development of both programs and facilities for exceptional children, there is an urgent need not only to think in terms of specific disabilities or problems, but also of abilities -- what a student is capable of, what his positive potentials are. The whole purpose of special education is to capitalize on abilities. The thrust is -- as any educator knows -- a positive thrust. Yet, too often, in attempting to communicate with design professionals, educators tend to place the emphasis on the negative -- on the disabilities.

If the design professional has had no direct personal experience with any of the array of problems that fall under the heading of special education, he is very apt to underestimate, in his design work, the positive abilities of the students he is attempting to serve. Put another way, he is apt to miss opportunities to apply his own professional insight into physical solutions that may reinforce abilities rather than simply to compensate for disabilities. There is a vast distinction.

It is of critical importance that architects and educators constantly probe both abilities and disabilities, and that the two be kept in balance and in sharp focus. Failing that balance, there may be created programmatic and facility errors that will be costly, and solutions may be overlooked -- often simple ones -- because of failure to recognize assets that can be built upon and reinforced. And there may be created subtle and unperceived barriers to learning, both in the programmatic sense and in the architectural sense.

It may be useful to think of all classes of students who require some form of special education as "students who learn differently." That gets away from the concepts

of handicap and of disability as a matter of emphasis. The question, then, becomes not how is the child disabled, but "How does the child learn differently?" "What are the specific characteristics of his learning abilities and constraints?"

Another area that needs some clarification and better understanding is the concept of "mainstreaming." For many years the tendency was to deal with exceptional children outside of the educational mainstream, often apart from the community, and often, inadequately. There blossomed, in consequence, a large number of centralized institutions. Some were very good. Many were doubtful. And more than a few were horrors. Now the emphasis is on returning as many young people, with special education needs, to the educational mainstream as is possible. It is proving possible to accommodate an extraordinarily broad range of exceptional children in the educational mainstream, more than might have been suspected originally.

That is not to suggest that it is easy. Far from it. The problems, administratively and conceptually, are prolific. And, as any architect knows who has worked with educators in the effort to develop special education facilities within or adjacent to existing schools or as components of new schools, there remain many unanswered programmatic questions.

It is certain that there will remain some students whose needs are so highly specialized that they cannot reasonably be accommodated at all within the mainstream. The preoccupation with the long overdue need to bring as many exceptional children as is programmatically possible into the educational mainstream and into the community, must not cause us to lose sight of the fact that there remains a role for some forms of institutional resources well outside the educational mainstream. They will, hopefully, be far fewer, far different in concept and scale, and of far superior quality. But the need for them will continue, nonetheless.

While we are properly concentrating much of our effort to bring the vast majority of exceptional children who are not now in the mainstream back into the mainstream where they belong, we need also to understand that there are needs that can only be met effectively in specialized multi-resource comprehensive centers.

Communication between the education and architectural professions is so vital. There is a great need to be candid about the fact that educators and architects are still very much on the frontier of the knowledge need for special education.

There are many well established standards, to be sure. Many of the simpler problems have yielded solutions. There is, for example, no excuse for the design of new facilities that architecturally deny access or restrict access and use by the physically disabled. But, when it comes to questions of how, for example, mentally retarded or emotionally disturbed young people react to space, color, texture, and groupings, we still have much to learn.

That is not to discount what we already know, but it is to say that there is still a great deal to be learned, and that educators and architects are going to need to increase the effectiveness of the dialogue in order to assure discovery. This effective dialogue will help sharpen our focus. Equally to the point, it will help to identify -- both programmatically and architecturally -- the points of commonality, the links, between special education and the mainstream itself. To the extent that the points of commonality can be truly defined, the basis for the integration of special education within the mainstream will be provided.

There must be an effective dialo[illegible]etween the educational and architectural professions that probes the following kinds of questions:

- Exactly what do educators know about the ways in which a given class of exceptional children respond to various programs and learning situations? How do they respond to peers unhampered as themselves, and how do those peers respond to them? And what are the key unknowns in the teaching processes for special education?

- Similarly, what have architects learned about the ways in which a given class of exceptional children relate to their environment, and what effect do the surroundings and atmosphere have on the child?

Additionally, deeper community involvement is needed in the search for answers. Conceptually, community involvement is now almost a cliche. But, as a practical matter, it is not always well accepted. For one thing, community involvement can be untidy, sometimes explosive, often difficult to manage. But it is essential -- particularly for special education facilities.

In recent years, a rapid increase in special education programs has evolved that has caused numerous problems for educational administrators. Among those problems were the availability of personnel, the identification of resource and teaching materials, and the providing of physical space in which to locate and implement these special programs.

As various special education programs began development, facilities provided for these children were often in the least desirable spaces. Frequently, these included abandoned or run-down buildings and barely modified spaces. Gradually, however, as special education programs became more widely established, in many areas facilities were provided equal to those available to other youngsters and, of course, now the law says they must be. As facilities for exceptional children are planned as an inclusive portion of total educational facilities, recognition of the needs of these children is encouraging the provision of specially designed educational environments.

A few specific guidelines for facility design for special education follows. These certainly are not all inclusive, and are merely listed to give a broad overview of things that must be investigated when designing or renovating a facility to accommodate special education.

o Architectural Barriers or Accessibility

We know a great deal today about the problems of architectural barriers and how to resolve them. There is a wealth of data and material on the subject, and most of the data relates to the mobility limited.

Certainly, among the most important requirements for a building to serve exceptional children is that it be as accessible as possible to them. Provision for this accessibility is attained through careful planning to eliminate as many barriers as possible. Steps and curbs, steep and narrow walks, gratings in walkways, narrow doors, small toilet stalls, too high drinking fountains and light switches, and lack of accommodations for wheelchairs are but a few of the more prevalent barriers.

There are many design factors that must be considered in facility design to assist the children (and adults) to function with as much mobility and as safely as possible. Among these are:

1. Ramps instead of steps and curbs, both inside a building as well as on the outside of a building, to give complete accessibility in and around the building,
2. Carpeting on all floors to reduce slipping and to cushion falls when they occur,

3. Wide classroom entryways without doors that restrict visual and auditory exposure to the corridors, but which permit the children to have free access through them,

4. Use of safety glass for doors and accessible windows,

5. Avoidance of sharp corners, surfaces and projections,

6. Toilets that are extremely convenient and available, with space and hardware to permit independence,

7. Exterior doors of the sliding rather than swinging type,

8. Hardware on doors, sinks, cabinets, etc., that can be used by a full range of handicapped children, and can be quickly identified by the blind,

9. Vertically adjustable chalkboards set approximately 18-24 inches away from the wall to permit use by children in wheelchairs,

10. Switches, controls, fire alarms, etc., within reach of people in wheelchairs,

11. Horizontally mounted railings (grab bars) throughout the building,

12. Furniture that can be vertically and horizontally adjusted to meet the needs of individual or groups of children,

13. Specially designed storage spaces to accommodate wheelchairs, walkers, standing tables and other large equipment,

14. Raised or recessed signage to identify rooms and spaces.

Additionally, careful attention must be given to incorporate meaningful emergency and fire protection systems. This involves easily operated emergency doors, barrier-free corridors, and warning signals that are meaningful to all handicapped children. Fire alarms, for example, at a minimum, must be equipped with audio signals for the blind and visual signals for the deaf.

Additionally, we need to recognize that there are many, often subtle, barriers about which we know relatively little. We have a great deal to learn about the ways in which emotionally and mentally limited young people react to subtle changes in space relationships. And we are constantly plagued by the concern that we may create environments upon which certain classes of students will become wholly dependent. Dependency on facets of environment can be a real problem, and it is a problem to which we have given insufficient attention. It is a form of architectural barrier.

For example, if an attempt is made to provide all possible stimulus for the advancement of learning or of coping, and an environment is created that is totally unlike the real world, that is overly sophisticated, too idealized, too comfortable and secure, there is a risk of creating dependency.

Thus, there might be a situation where a student appears to be progressing in the secure "womb" of his classroom, with all of its learning technologies or cues, but with little or no ability to transfer that "progress" in real situations.

o Flexibility

We talk a great deal these days about the need for flexibility, mobility, and adaptability in our planning and design of facilities for not only

special education but education facilities of all sorts. The design of flexible space or of multiple purpose space is, in itself, of little or no problem. The architectural profession has been most innovative in that connection, often with very good results. The proper use of flexible or adaptable space does, however, pose a problem, often many problems, for teaching staffs unaccustomed to them. Classically, there have been problems associated with the proper control and use of "resource centers." Also, there have been problems associated with open school plans when staffed by teaching professionals geared to more traditional spaces.

It is essential that we approach the design of flexible spaces for special education with caution, and with a great deal of thought. In this instance, the innovation of the architect may run ahead of programmatic innovation or, at least, of the capacity to implement programmatic innovation. We already know that some classes of students function much better in more confined, secure, relatively traditional spaces. That does not preclude the design of flexible space for such students, but it does bear mightily on the character of the flexibility and how it will be put to use.

In any design for flexibility, it is also essential to recognize the need for certain kinds of special spaces for certain kinds of special problems. Intrusive behavior, for example, such as "talking-out" or "yelling" must be anticipated and provision made when planning for emotionally related learning needs. That may require a small room, individual areas, separate specially designed carrels, or the like. It is also recognized that special education teachers may need space to which they may withdraw, from time to time, but still within vision of the class. Many exceptional children require individual instruction or attention during the course of a normal day, and that must be anticipated in the design of spaces.

> Maximum adaptability or flexibility of all types must be a prime consideration in designing schools for exceptional children. Generally, the more flexibility a teacher or teaching team has to restructure a learning environment rapidly and easily to meet specific needs and purposes, the better. The planning and design of flexible space requires, both programmatically and architecturally, a very considerable depth of very precise and well articulated understanding of purposes and desired results. The facility must not hinder or stifle the program, but rather must give support to it. The design of flexible space is not to be viewed as a hedge against programmatic uncertainties. On the contrary, programming should be exceptionally thorough.

As was mentioned earlier, the planning of special education facilities must focus in part on the behavior of the children and the way in which the behavior relates to the physical environment. Significant attention in this area has been focused on children who display an inability to control their reactions to stimuli which are not directly related to the learning task in which they are supposed to be involved. Instead of paying attention to the task at hand, the child may be more concerned with listening to the noises of the mechanical system, noticing the flickering of the lights, watching the movement of various things outside the window, or examining the color patterns on the floor or ceiling. To assist this child in attending to the educational task, heavy emphasis should be placed on structuring the environment in a manner that eliminates the effect of distracting stimuli, so that the learning task can be given proper attention.

One approach is to coordinate the entire color scheme of the learning space based on a neutral color. Often, along with this approach, windowless classrooms are used or, if windows are present, they are located high on the wall above the eye level of the children. All materials and equipment in the learning space should be stored out of sight when not in use, preventing the children from being distracted by them. Additionally, tackboards, chalkboards and other potential sources of distraction should not be included in the learning spaces.

In many special education programs an attempt to control the environment occurs through the use of learning carrels or cubicles. Well designed carrells are frequently seen in regular classrooms as the sole environmental modification provided for special education.

The programming and planning of the physical environment for the education of exceptional children requires that a wide number of elements be examined in isolation of each other. However, there is a point at which the seemingly isolated elements must be combined to yield a total building system. Architects can and must have a vital role in this programming and design that puts the education program and the facility into a total, unified system. The architectural profession involves a great deal more than design, itself. In fact, in order to assure proper design solutions, there must first be a properly organized design problem. So, in a profound way, the architectural profession is, first and foremost, a profession of organizing problems and solutions in the context of desired results.

The process requires exceptionally close working relationships and communication between architects and educators for effective cost-beneficial and functional design of facilities for special education. The way educators and architects approach the problems of creating special education facilities -- the perspective that is brought to bear, and the openness and frankness with which the subject is approached -- will, more than anything else, decide how effectively the learning needs of those who learn differently are met.